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mends the following fluid for the preservation of galls, coccids on plants, and larvæ for dissection: 200 cc. glycerine, 200 cc. distilled water, 1 gram crystallized carbolic acid.

This mixture is said to be serviceable for preservation in the tropics.

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NOTES ON OLIGOCHÆTA

Hæmonais.—Stephenson ('15, Trans. Roy. Soc. Edinburgh, 50:769-781) reports the discovery of a new species of *Hæmonais* in India. Heretofore, this genus was represented only by a single species from Switzerland. A complete account of the anatomy is given. In the sexually mature condition, the alimentary canal undergoes atrophy. The mouth remains but the lumen of the canal becomes indistinct and disappears in V, reappearing only posterior to XI. The posterior region is nearly normal in appearance but, in the zone of degeneration, the canal is merely band-like and its transverse dimensions are less than those of the ventral nerve cord.

Dero and Slavina.—Stephenson ('15, Trans. Roy. Soc. Edinburgh, 50:789-795) describes the anatomy of sexual individuals of *Dero limosa* and finds, in these animals, a curious degeneration of the digestive tract which has not been described in the Oligochæta except for *Hæmonais,* although a similar condition is known to occur in certain Polychæta. The anterior opening disappears, and the mouth cavity, pharynx, œsophagus, and intestine become so profoundly changed that they are represented only by a narrow cord for some distance. The lumen is absent anterior to XII. Apparently, the development of sexuality marks the end of the life of the individual. In this same paper, the hitherto unknown sexual organs of *Slavina* are described in the species *punjabensis.*

Bifurcation in Lumbricus.—Benham ('15, Trans. New Zealand Inst., 47:185-188) reports an interesting case of bifurcation in *Lumbricus rubellus.* The right side of the third clitellar somite gives rise to a posteriorly directed branch, about one-fifth as long as the body and containing fifteen somites. The clitellum is continued on the three basal somites of the branch and the tubercula pubertatis is continued along their outer side. The nerve cord and the nephridia extend to the end of the branch but the intestine is absent. Setæ are apparently absent on all somites of the branch except one. Bifurcations are not uncommon among earthworms but this record is unique because of the unusual anterior position of the branch, the great inequality of the two corresponding body parts, and the absence of the intestine in the branch.

Regeneration.—Hunt ('15, Am. Nat., 49: 495-503) has found that, in *Enchytræus albidus,* posterior regeneration occurs when the animal is cut at any level between "eight segments from the posterior end of the body and eight segments from the anterior end." From the caudal end up to the middle of the body, the rate of regeneration increases almost in direct proportion to the number of segments removed. Removal of the eight most posterior somites may cause regeneration of double tails. Regeneration occurs either in fresh-water or salt-water conditions and salinity apparently has little or no influence on the rate.

Earthworms.—Smith ('15, Bull. Ill. State Lab. Nat. Hist., 10: 551-559) describes two new varieties of earthworms from Illinois and presents a tabular key to the described species of earthworms known to occur in that state. The key is accompanied by additional data on the distribution and habits of the different species. The key will be very useful in the identification of the earthworms, not only of Illinois but also of the adjacent states.

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THE OLFACTORY SENSE IN INSECTS

This problem has been a favorite one for students for one hundred and fifty years, and very diverse conclusions have been reached. N. B. McIndoo has published a summary of these conclusions under the title "The Olfactory Sense of Insects" in the Smithsonian Miscellaneous Collections, Volume 63, No. 9.

The two principal views relative to the possible seat of the olfactory organs of insects are:—first, that they are located largely upon the antennæ and palpi; and secondly, that the vesicles discovered by Hicks and situated on the legs, wings, and other parts of the body are the true olfactory sense organs.